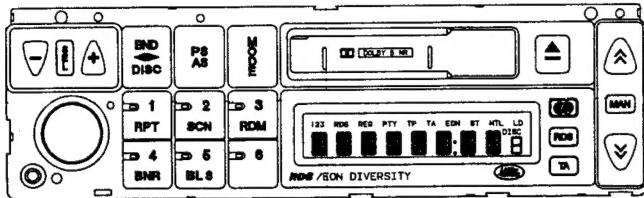


clarion Service Manual

Published by Service Information Section



■ SPECIFICATIONS:

[Radio section]

Circuit system:	Superheterodyne
Tuning system:	Electronic tuning
Receiver range:	LW 153kHz to 279kHz MW 531kHz to 1,602kHz FM 87.5MHz to 108MHz
Intermediate frequency:	LW 450kHz MW 450kHz FM 10.7MHz
Quieting sensitivity:	LW Less than 42dB (at 20dB S/N) MW Less than 35dB (at 20dB S/N) FM Less than 12dB (at 30dB S/N)
Separation:	FM More than 20dB
Auto tuning stop sensitivity:	LW DX 20~40dB LO 45~65dB MW DX 20~40dB LO 45~65dB FM DX 15~35dB LO 40~60dB

■ COMPONENTS:

• PU-9836A		
Main unit		1
Mounting bracket	300-9550-00	1
[Removal tool	341-1446-01	1]

■ ANTI-THEFT-SYSTEM:

- Releasing the ANTI-THEFT SYSTEM (When reinserting the car stereo or reconnecting the battery.)
- 1. Make the necessary wire connections.
- 2. Turn on POWER switch. ("CODE IN" is displayed.)
- 3. Using PRESET button 1 to 6, input the secret number.

After the last code number is entered the radio will operate.

LAND ROVER
RDS/FM • MPX/MW/LW
Radio Cassette Stereo with
CD Changer Control
Model PU-9836A
(Part No. PRC 7618)

[Tape section]

Reproduction system:	4 track, 2 channel stereo cassette tape playback
Tape speed:	4.76cm/sec (1-7/8 ips)
Wow and flutter:	0.15% (W.R.M.S)
S/N ratio:	More than 56/48dB, Dolby B ON/OFF (120 μ s)
Cross talk:	More than 58/50dB, Dolby B ON/OFF (70 μ s)
Separation:	More than 30dB
FF/REW time:	Less than 110sec. (C-60)

[Synthesis]

Power Supply voltage:	DC 14.0V (10.8V to 15.6V)
Current consumption:	Negative ground Less than 3mA (at ACC OFF)
Load impedance:	660 Ω
Line out level:	0.125V \pm 6dB
Quieting power output:	More than 8W \times 4
Dimensions:	Width 178mm Height 50mm Depth 160mm
Weight:	1.5kg

• Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
 • "DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

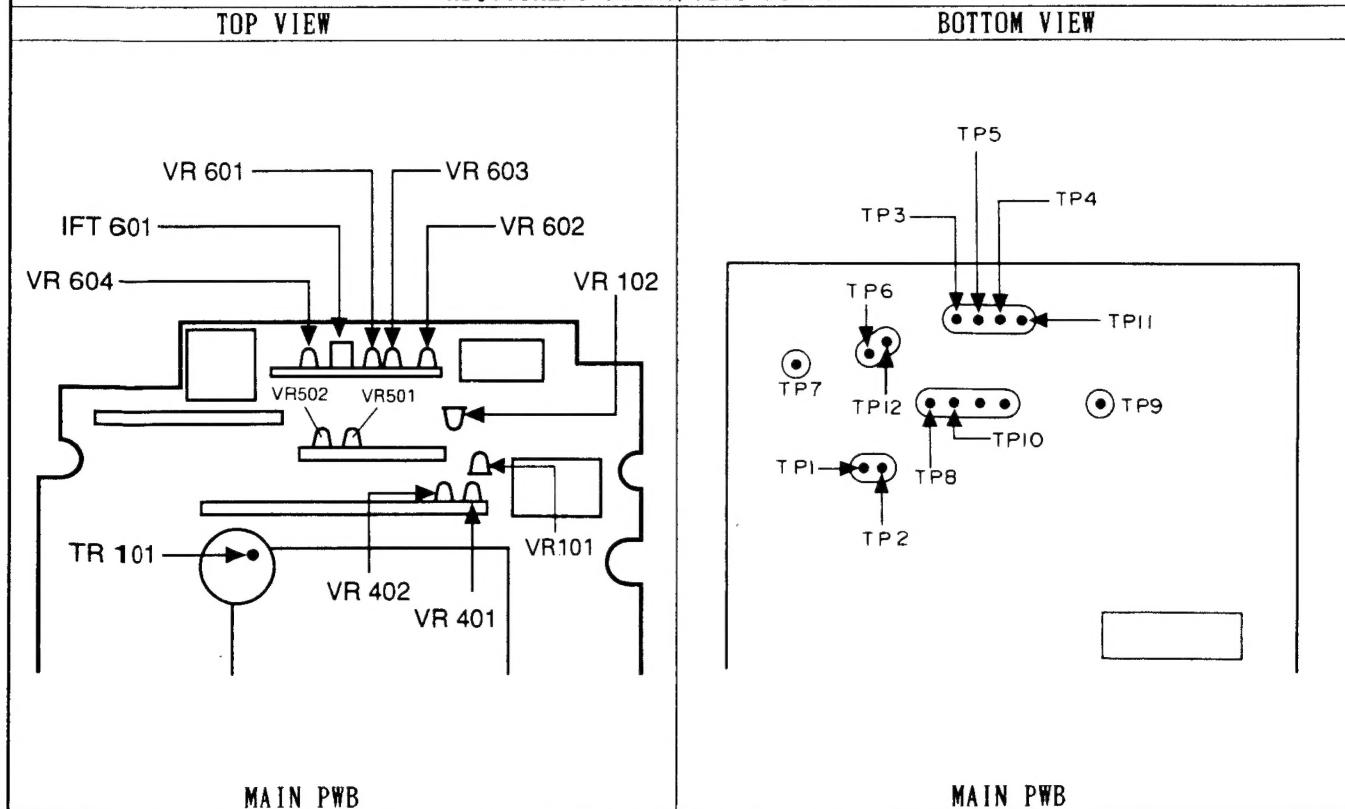
- In case the wrong code was entered.
- 1. Finish entering all four digits.
- 2. Press BAND button for approximately two seconds.
- 3. Input the correct code.

- Waiting time for releasing the ANTI-THEFT SYSTEM (If the wrong code was entered at three times.)
- 1. Wait for more than an hour at the necessary wire connections.
- 2. Press BAND button for two seconds.
- 3. Input the correct code.

■ ADJUSTMENT:

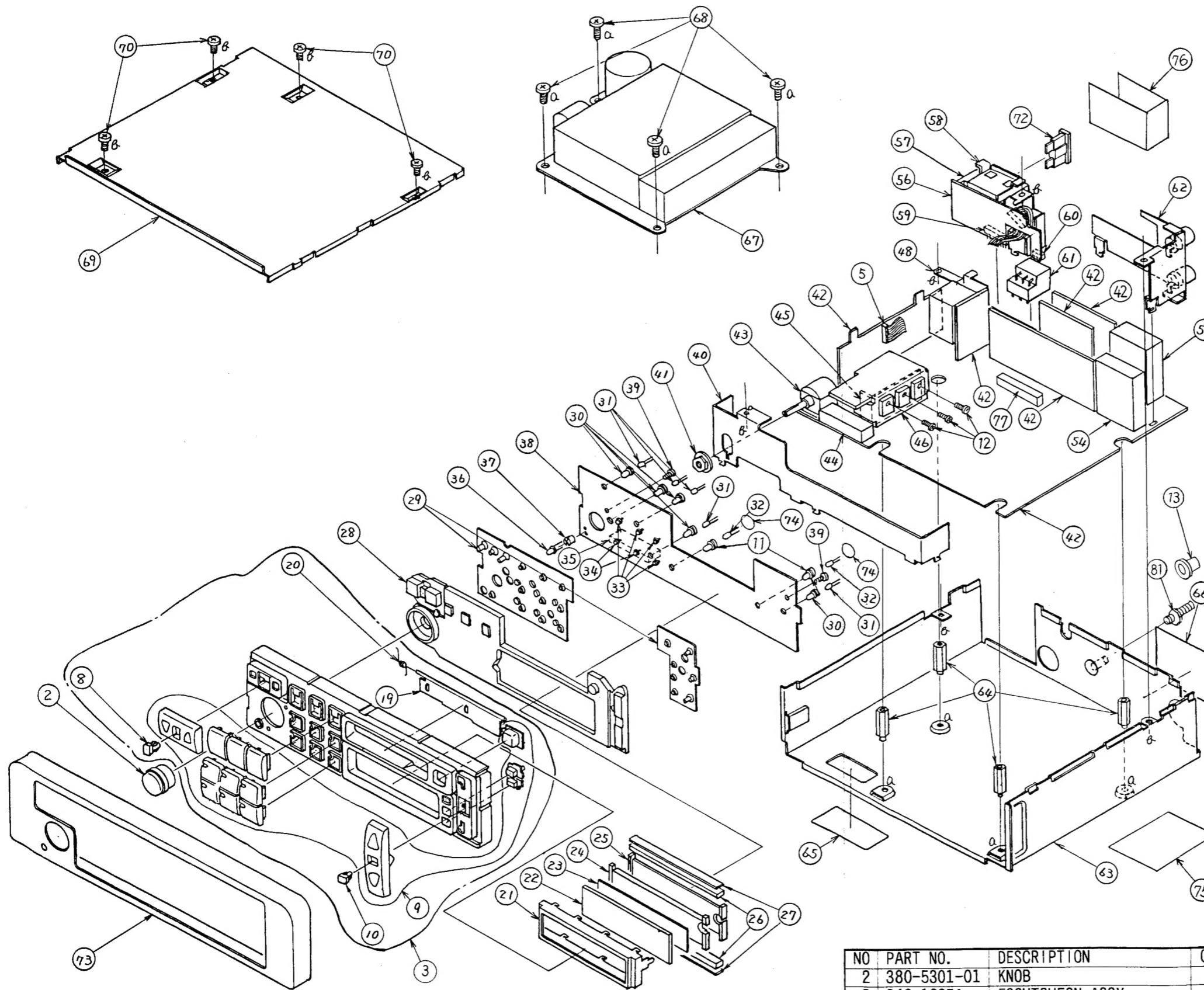
ITEM	TEST-POINT	PROCEDURE
OV	IFT601	1. CONNECT THE DIGITAL VOLT-METER TO TP3 AND TP4. 2. INPUT THE 98.1MHz/30dB SIGNAL(no MOD), AND ADJUST THE READING OF DIGITAL VOLT-METER TO $0 \pm 20\text{mV}$ BY IFT601.
Limiter	VR602	1. INPUT THE 98.1MHz/65dB SIGNAL(400Hz, 30% MOD). [OUTPUT:0dB(0.245V)] 2. SET THE SSG OUTPUT TO 10dB, AND ADJUST THE OUTPUT LEVEL TO -3dB BY VR602.
SD	VR601	1. CONNECT BETWEEN TP9 AND TP10(5V). 2. INPUT THE 98.1MHz/23dB SIGNAL(400Hz, 30% MOD). 3. ADJUST VR601 SO THAT THE VOLTAGE OF TP5 IS IN THE RANGE OV TO 5V.
S-meter	VR102	1. CONNECT THE DIGITAL VOLT-METER TO TP6. 2. INPUT THE 98.1MHz/35dB SIGNAL(400Hz no MOD). 3. ADJUST THE LEVEL TO $2.4 \pm 0.1\text{V}$ BY VR102.
SASC	VR603	1. INPUT THE 98.1MHz/65dB SIGNAL(7KHz 30% MOD). 2. SET THE OUTPUT TO 0dB BY VR603 FULLY COUNTER-CLOCKWISE. (0.775V) 3. SET THE SSG OUTPUT TO 43dB, AND ADJUST VR603 SO THAT THE OUTPUT LEVEL IS -2dB.
Separation	VR604	1. INPUT THE 98.1MHz, CONNECT THE OUTPUT OF A STEREO MODULATOR TO THE EXTERNAL MODULATION TERMINAL, AND INPUT A 65dB SIGNAL. 2. SET THE STEREO MODULATOR TO THE L OR R-ch AND ADJUST VR604 SO THAT THE MAXIMUM SEPARATION IS OBTAINED. (MORE THAN 20dB)
CW	VR501	1. CONNECT THE MILLI VOLT-METER TO TP8. 2. INPUT THE 98.1MHz/65dB SIGNAL(100Hz, MONO) AND ADJUST THE LEVEL TO $1.77\text{V} \pm 1\text{dB}$ BY VR501.
DK	VR502	1. INPUT THE 98.1MHz/55dB SIGNAL (no MOD, SK DK on) 2. CONNECT THE OSCILLOSCOPE TO TP9, AND ADJUST VR502 SO THAT THE OSCILLOSCOPE OUTPUT WAVEFORM IS MAXIMUM.
Tape speed	TR101	1. INSERT A TAPE SPEED TEST TAPE (3000Hz). 2. ADJUST THE TAPE SPEED TO $3000 \pm 45\text{Hz}$ BY TR101.
Dolby NR	VR401 VR402	1. INSERT A DOLBY LEVEL TEST TAPE (400Hz-200nWb/m), CONNECT THE MILLI VOLT-METER TO TP1(L) AND TP2(R). 2. ADJUST VR401(L) AND VR402(R) TO OBTAIN AN OUTPUT OF $388\text{mV} \pm 1\text{dB}$.

ADJUSTMENT POINT/TEST POINT



*DIVER FIX(MAIN):Connect TP12 to earth.

■ EXPLODED VIEW • PARTS LIST:



NO	PART NO.	DESCRIPTION	Q
2	380-5301-01	KNOB	
3	940-1665A	ESCUTCHEON-ASSY	
5	854-3230-00	EXTENSION LEAD*8P	
8	382-3350-01	BUTTON*SEL	
9	947-0352-07	BUTTON-ASSY	
10	382-3352-01	BUTTON*MAN	

NO	PART NO.	DESCRIPTION	QTY
11	345-7148-06	LAMP CAP	2
12	714-2608-81	MACHINE SCREW	3
13	345-3653-01	SPACER	1
19	320-0391-41	DUSTPROOF-CVR	1
20	750-2309-01	SPRING	1
21	331-0157-00	LCD HOLDER	1
22	379-1005-21	INDICATOR	1
23	335-4512-01	COLOR FILTER	1
24	335-4479-00	BACK LIGHT	1
25	335-4480-00	LCD SPACER	1
26	345-7366-00	RUBBER CONNECTOR	2
27	347-3818-00	SPACER	2
28	335-4477-03	ILLUMI PLATE	1
29	345-5156-01	RUBBER SWITCH	1
30	345-7148-07	LAMP CAP	5
31	017-0345-09	PILOTLAMP	5
32	017-0376-02	PILOTLAMP	2
33	001-0486-04	LED	4
34	001-7009-01	LED	2
35	074-0961-28	OUTLET SOCKET*28P MAIN	1
36	001-0207-00	LED*RED/CATS	1
37	335-4513-00	LED SPACER	1
38	099-9982-02	SWITCH PWB	1
39	702-2005-81	TAP SCREW	2
40	331-0158-00	FRONT PLATE	1
41	722-0368-00	NUT	1
42	099-9981-03	MAIN PWB	1
43	012-5194-00	VARIABLE-R*VOL	1
44	076-0414-28	PLUG*28P-ES	1
45	330-9409-01	HEATSINK HOLDER	1
46	313-1548-01	HEAT SINK	1
48	331-0160-00	CHOKE HOLDER	1
54	880-1602A	MW/LW TUNER BLOCK	1
55	880-1418A	FM TUNER BLOCK	1
57	074-0930-03	OUTLET SOCKET*26P ISO	1
58	330-9391-01	BACK PLATE	1
59	076-0420-02	PLUG*10P	1
60	076-0288-02	PLUG*2P	1
61	074-0818-00	OUTLET SOCKET*13P-BUS	1
62	331-0161-05	ANT-HOLDER	1
63	311-1591-08	LOWER CASE	1
64	716-1461-00	SPACER	4
65	290-4411-00	LABEL	1
66	290-4642-00	LABEL	1
67	930-0735-00	TAPE-MECHANISM*GFX	1
68	716-0878-00	IT-SCREW	4
69	310-1527-00	UPPER CASE	1
70	714-2605-81	MACHINE SCREW	4
72	060-0057-52	AUTO-FUSE*3A	1
73	335-4476-06	PANEL	1
74	353-0359-00	SHADE	2
75	286-7975-02	SETPLATE	1
76	347-3827-00	INSULATOR	1
77	076-0433-20	PLUG*20P	1
81	716-0871-00	STUD BOLT	1

■ PARTS LIST:

◎ Electrical section

• SWITCH P.W.B

REF NO.	PART NO.	DESCRIPTION	QTY
D104	001-0207-00	LED *RED	1
D101-103, 107	001-0486-04	LED GL1HS111	4
D105, 106	001-7009-01	LED GL1HS112	2
C104, 107	043-1601-10	CHIP-C 0.1 μ F	2
IC101	051-1345-15	IC MB88307APFG	1

REF NO.	PART NO.	DESCRIPTION	QTY
IC102, 103	051-6005-00	IC LC75821E	2
C101	176-3301-00	CHIP-C 33pF	1
C102	178-1032-05	CHIP-C 0.01 μ F	1
C103, 106	178-6812-05	CHIP-C 680pF	2

• MAIN P.W.B

REF NO.	PART NO.	DESCRIPTION	QTY
D113	001-0188-01	DIODE 1S1885A	1
D115, 123, 142	001-0330-00	DIODE 1SS119	3
	001-0352-00	1SS176	
D103, 128, 146	001-0356-00	DIODE 1SS184	5
701, 702	001-0354-00	MA151WK	
D145, 401	001-0356-05	DIODE 1SS181	2
	001-0354-05	MA151WA	
D131, 143, 144	001-0367-00	DIODE 1SS226	6
151, 601, 602	001-0541-00	MA157A	
D106	001-0377-34	DIODE MA4062L	1
	001-0376-34	MTZJ6.2A	
D121	001-0377-39	DIODE MA4068H	1
	001-0376-40	MTZJ7.5A	
D120, 122	001-0377-47	DIODE MA4091M	2
	001-0376-48	MTZJ9.1C	
D104	001-0377-48	DIODE MA4091H	1
	001-0376-49	MTZJ10A	
D108	001-0377-50	DIODE MA4100M	1
	001-0376-51	MTZJ10C	
D116	001-0377-63	DIODE MA4150M	1
	001-0376-64	MTZJ15C	
D107, 112, 114	001-0466-00	DIODE S5688B	4
295	001-0534-00	1SR139-100	
D117, 118	001-0502-00	DIODE IFWJ43	2
D105, 111, 124	001-0516-00	DIODE MA111	7
129, 130, 137			
138			
D101, 102	001-0579-00	DIODE 1SV128	2
P0601	002-0220-00	THERMISTOR *PTH60T102	1
P0101	002-0222-00	THERMISTOR *PTH61GR2R	1
IFT602	005-1022-51	IF-TRANS *MS3A	1
IFT601	005-1035-00	IF-TRANS *0V	1
L113	009-0470-02	CHOKE *B/U	1
L109	009-0618-00	CHOKE *ACC	1
L101	010-2003-04	COIL *36uH	1
L620	010-2174-36	COIL *1mH	1
L621	010-2199-16	COIL *2.2uH	1
L105, 106, 112	010-2230-14	COIL *2.2uH	3
L102, 103	010-2230-16	COIL *3.3uH	2
L107, 111	010-2230-28	COIL *33uH	2
L104	010-2230-33	COIL *82uH	1
VR502	012-4318-00	VARIABLE-R *330	1
VR501	012-4318-04	VARIABLE-R *3.3K	1
VR401, 402	012-4318-06	VARIABLE-R *10K-DBY	2
VR101	012-4738-11	VARIABLE-R *220K	1
VR102	012-4738-12	VARIABLE-R *330K	1
VR601	012-4863-06	VARIABLE-R *10K	1
VR603, 604	012-4863-07	VARIABLE-R *22K	2
VR602	012-4863-09	VARIABLE-R *47K	1
C193	042-0171-00	TANTALUM-C 16V 47 μ F	1
C120	042-0176-00	TANTALUM-C 16V 10 μ F	1
C619	042-0245-00	TANTALUM-C 35V 0.68 μ F	1
C198	042-0334-32	ELECTRO-C 16V 100 μ F	1
C197, 710, 711	042-0378-00	ELECTRO-C 10V 220 μ F	5
709, 724			
C112, 122, 635	042-0397-00	CHIP-C 16V 1 μ F TAN	4
639			
C106	042-0397-03	CHIP-C 25V 0.47 μ F TAN	1
C200	042-0397-04	CHIP-C 10V 2.2 μ F TAN	1
C640	042-0397-06	CHIP-C 35V 0.1 μ F TAN	1
C607	042-0403-01	CHIP-C 16V 10 μ F TAN	1
C260	042-0450-00	ELECTRO-C 6.3V 470 μ F	1

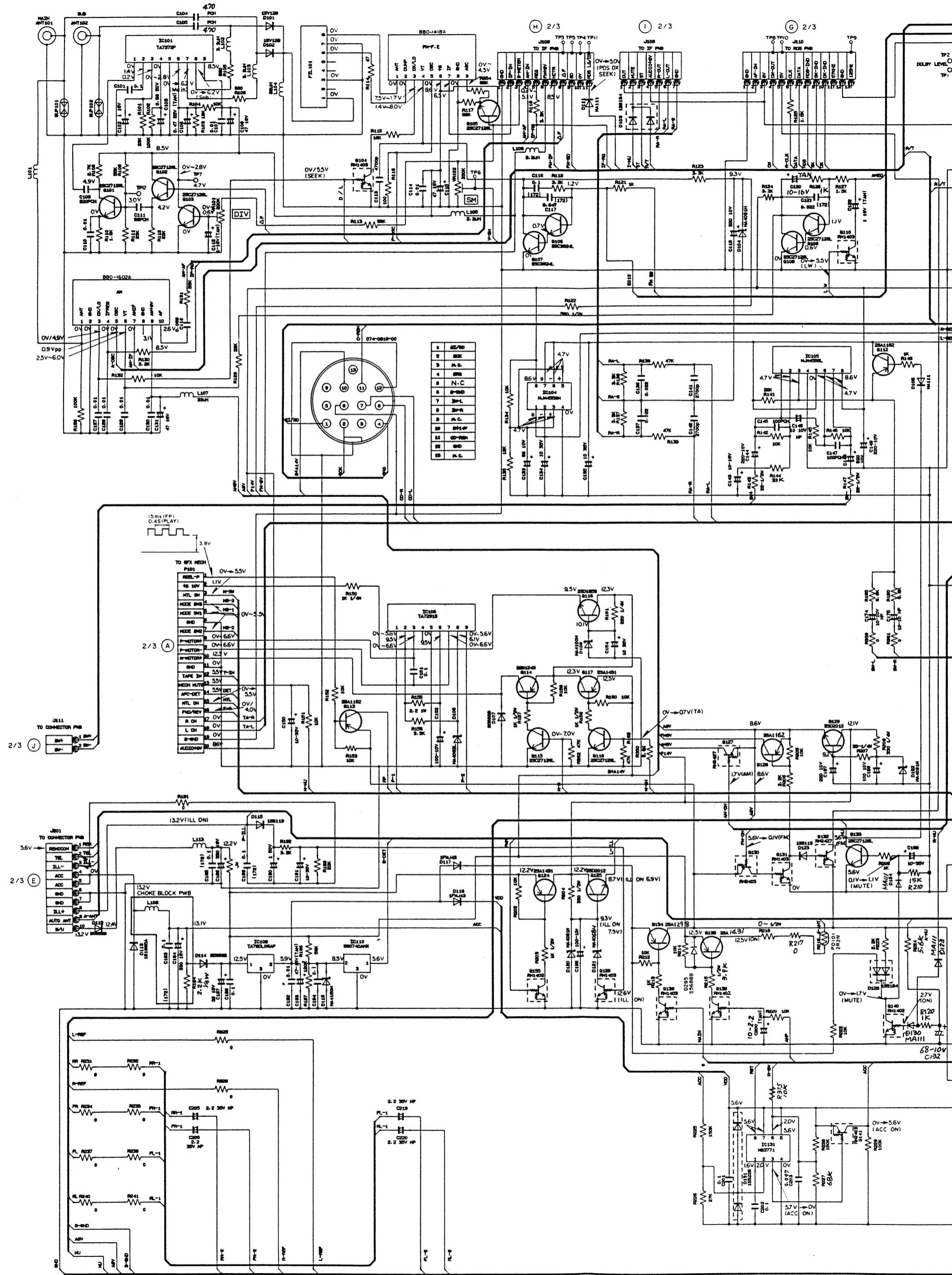
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IC119, 144, 148	042-0452-01	ELECTRO-C 10V 220 μ F	10
149, 461, 712			
713, 722, 723			
725			
C636	043-1600-39	CHIP-C 0.039 μ F	1
C203, 517, 526	043-1600-47	CHIP-C 0.047 μ F	8
604, 608, 609			
627, 628			
C514	043-1600-56	CHIP-C 0.056 μ F	1
C118, 527, 631	043-1600-68	CHIP-C 0.068 μ F	3
C436, 452	043-1600-82	CHIP-C 0.082 μ F	2
C101, 151, 188	043-1601-10	CHIP-C 0.1 μ F	25
194, 201, 202			
233, 236, 249			
253, 256, 456			
254, 402, 405			
460, 463, 503			
507, 510, 525			
528, 603, 614			
624			
IC119	051-0160-56	IC HD74LS07FPD	1
IC104, 404	051-0350-55	IC NJM4558M	2
IC502	051-0556-01	IC NJM2058M	1
IC401, 402	051-0853-01	IC M5201FP	2
IC131	051-0869-05	IC MB3771PF(-G)	1
IC106	051-1014-10	IC TA7291S	1
IC405	051-1038-01	IC CXA1102M	1
IC115	051-1046-46	IC LC3517BML	1
IC109	051-1188-01	IC TA78DL06AP	1
IC602	051-1250-00	IC TC4S66F	1
IC101	051-1282-00	IC TA7372P	1
IC117	051-1375-35	IC	1
IC105, 701-704	051-1407-00	IC NJM4556L	5
IC601	051-1525-00	IC TA8172AF	1
IC110	051-1556-05	IC S-80740AN	1
IC503	051-1817-00	IC TDA1581T	1
IC501	051-1819-00	IC SAA6579T	1
IC403	051-5001-00	IC M51139FPA	1
IC116	052-1103-01	μ PD17006AGF-625-389	1
IC118	052-3109-01	μ PD75518AGF-173-389	1
SUP101, 102	060-0122-10	SURGE PROTECTOR	2
X102	060-0130-50	CERA-RESONATOR *4.19MHz	1
F1101	060-0235-00	BAND-PASS-FILTER	1
X601	060-0240-00	CERA-RESONATOR *IF 456K	1
X101	061-1053-00	CRYSTAL *4.5MHz	1
X501	061-3013-12	CRYSTAL-OSC *4.332MHz	1
Q112, 113, 128	100-1162-00	TRANSISTOR 2SA1162	8
148, 701-704	100-1179-00	2SA1179	
Q134	100-1298-00	TRANSISTOR 2SA1298	1
Q117, 124, 135	100-1431-00	TRANSISTOR 2SA1431	3
Q114	101-1243-00	TRANSISTOR 2SB1243	1
Q101-103, 105	102-2712-51	TRANSISTOR 2SC2712G, L	11
108, 109, 115	102-2412-50	2SC2412K-R, S	
118, 133, 154			
605			
Q603	102-2715-00	TRANSISTOR 2SC2715	1
Q106, 107	102-3624-00	TRANSISTOR 2SC3624AL	2
Q116	103-1858-00	TRANSISTOR 2SD1858	1
Q129, 125	103-2012-00	TRANSISTOR 2SD2012	2
Q604	108-0372-00	FET 2SK372	1

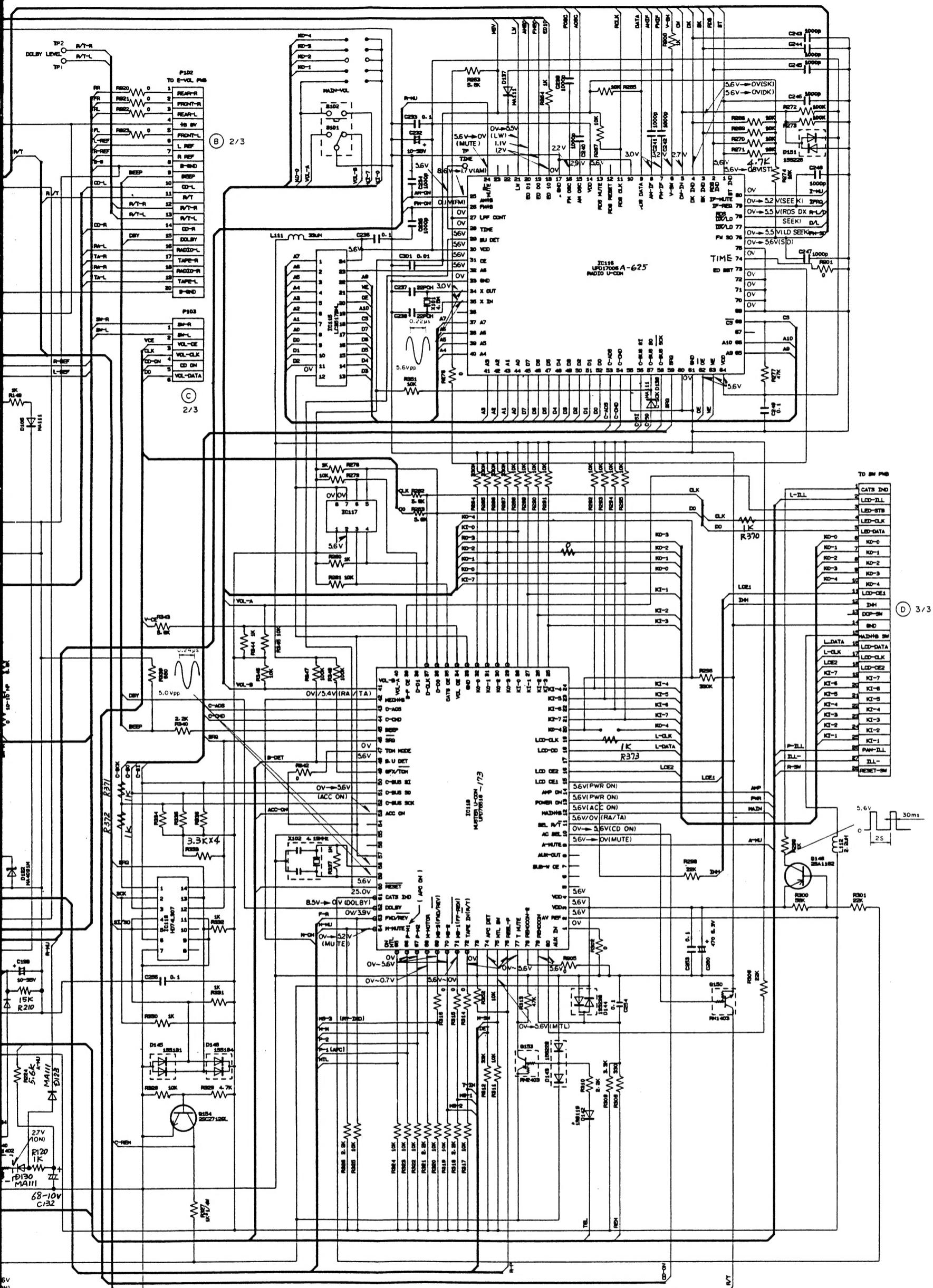
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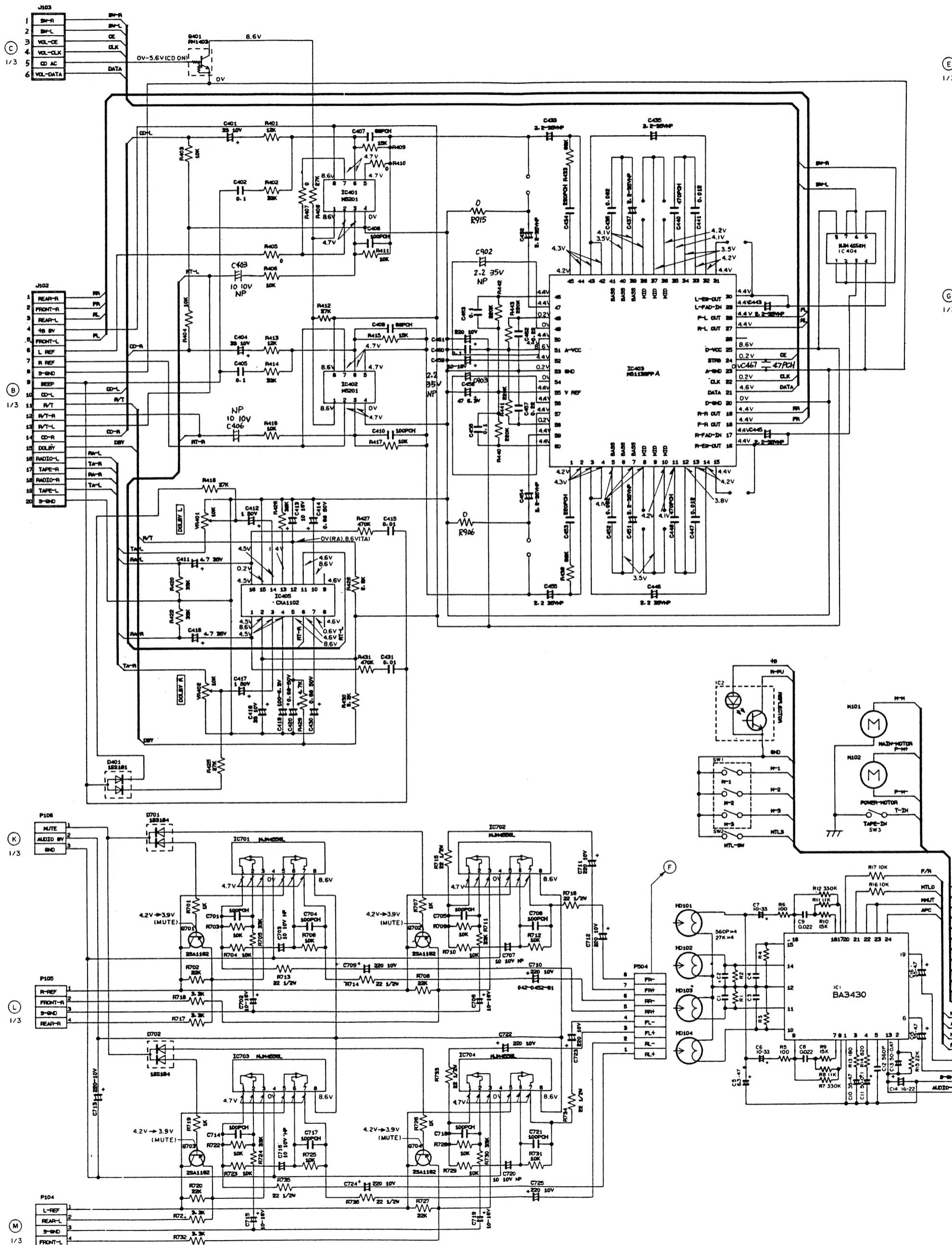
CIRCUIT DIAGRAM: 1/3

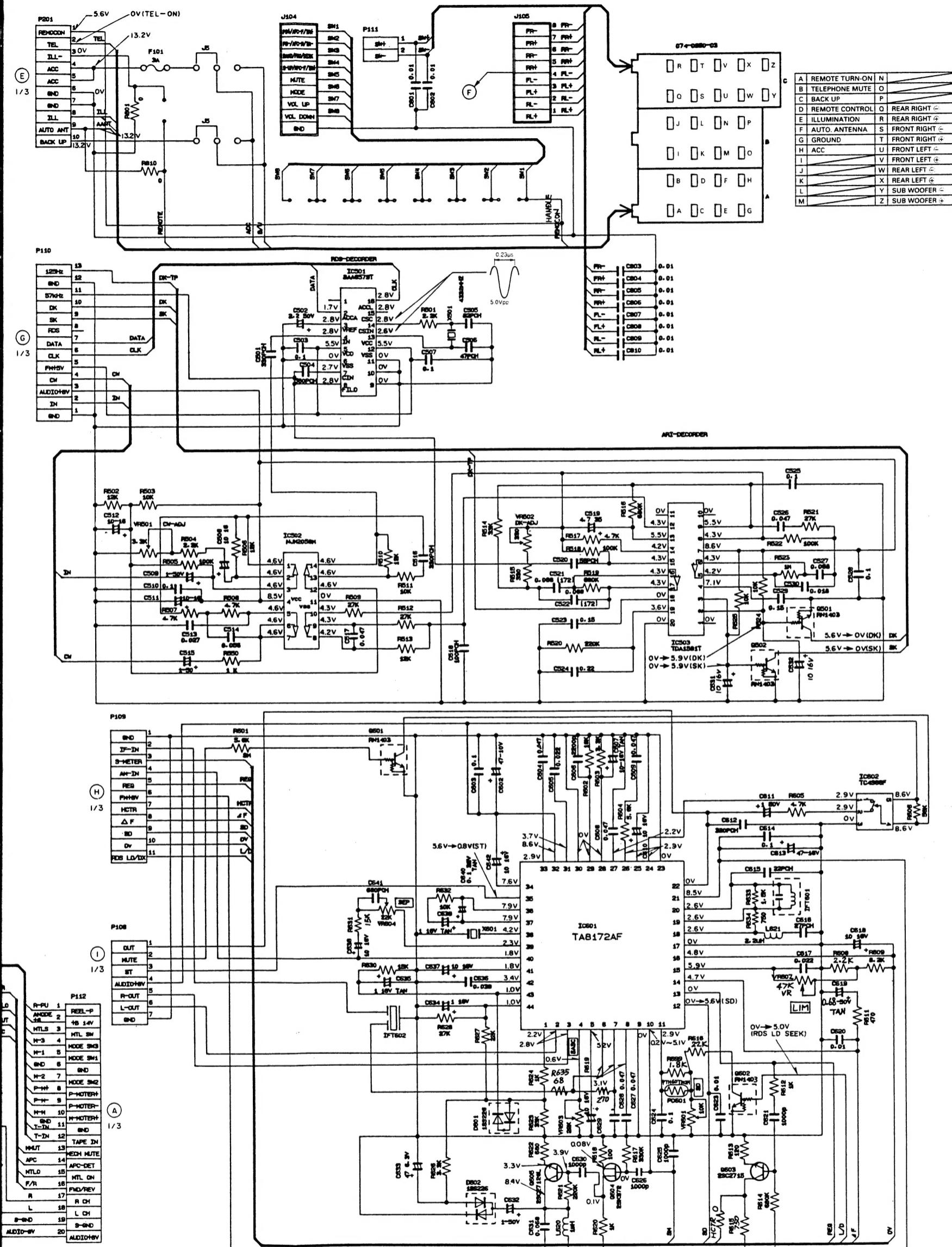
© MAIN PWB





■ CIRCUIT DIAGRAM: 2/3





■ CIRCUIT DIAGRAM: 3/3

◎ SWITCH PWB

1

2

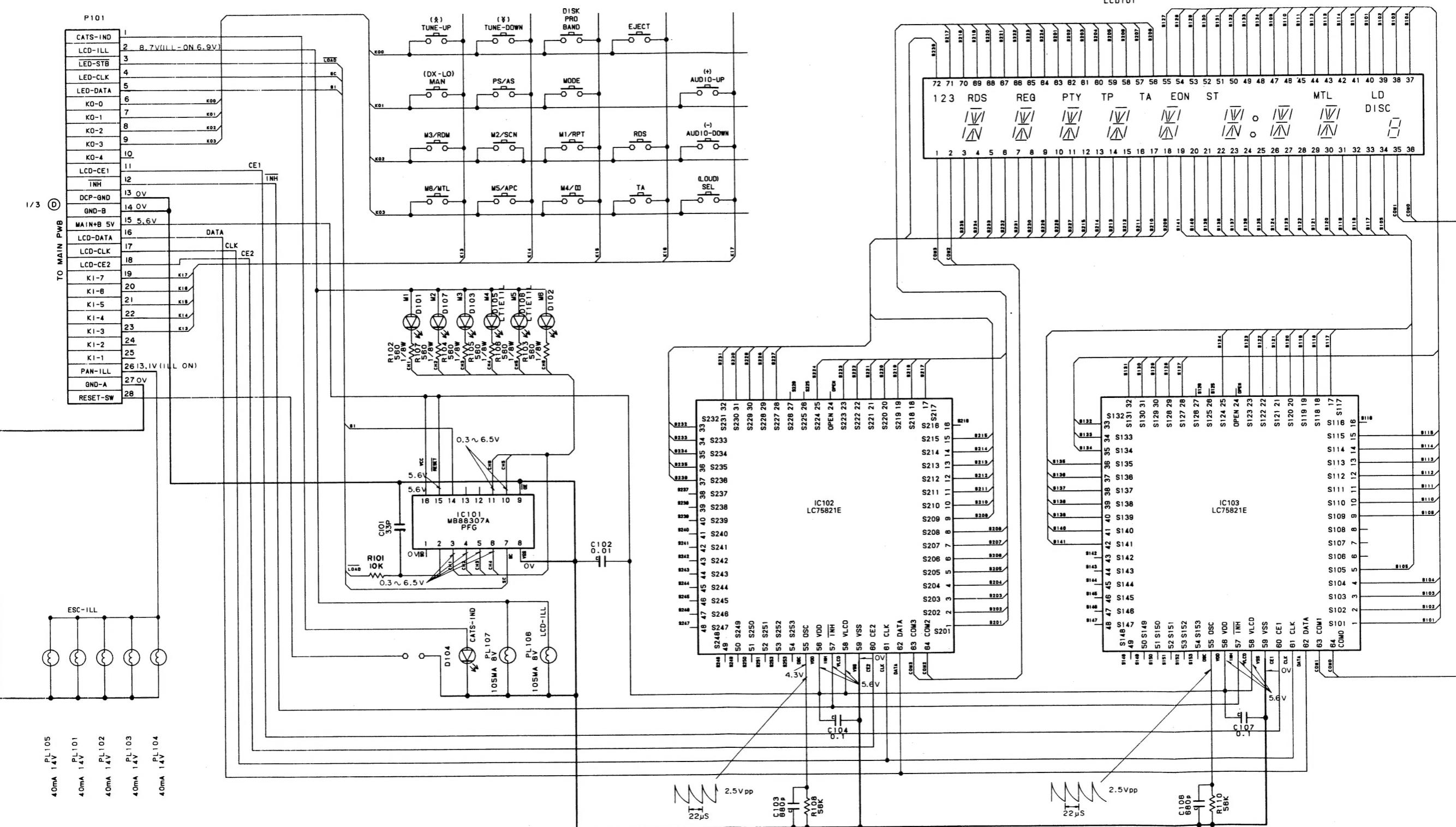
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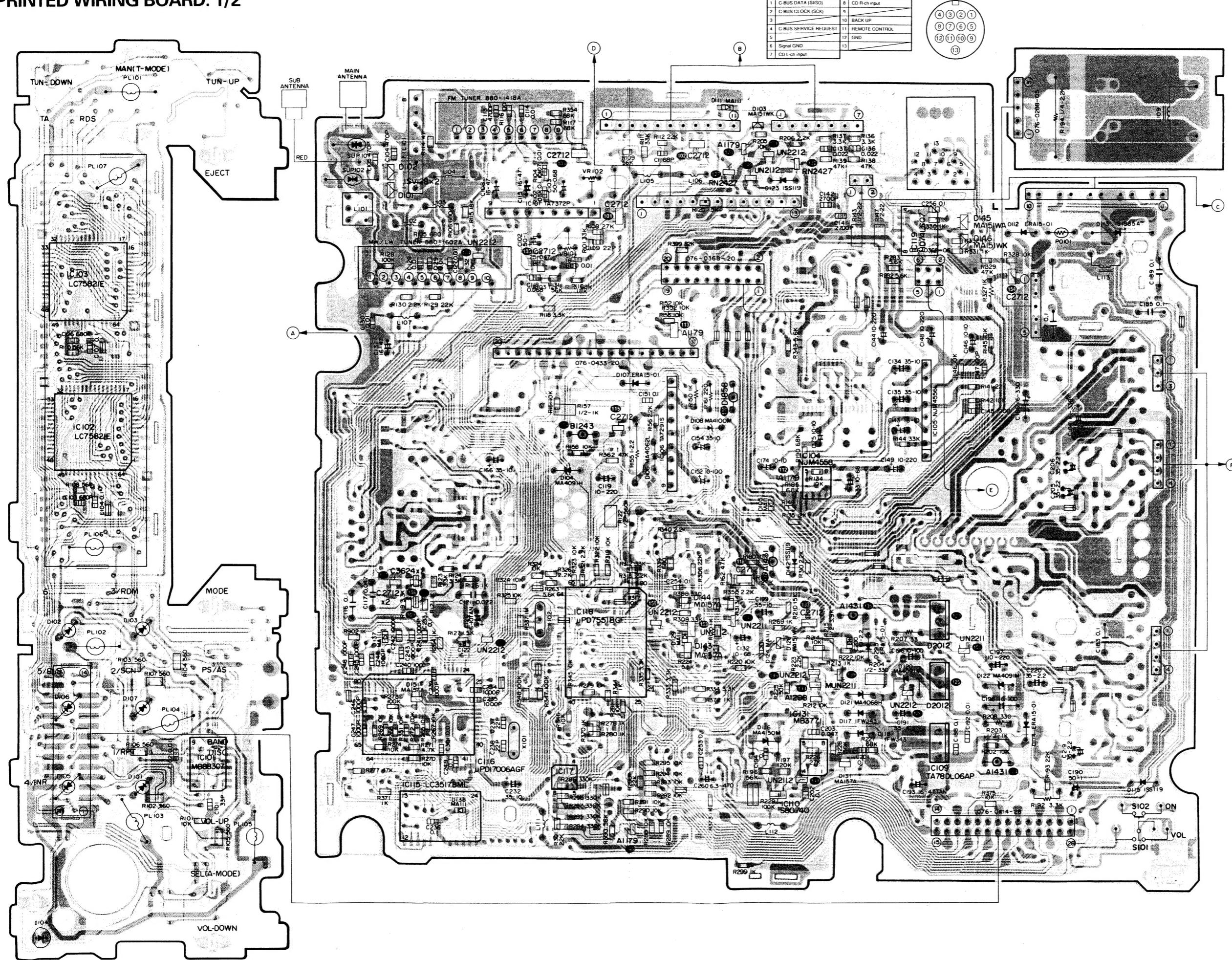
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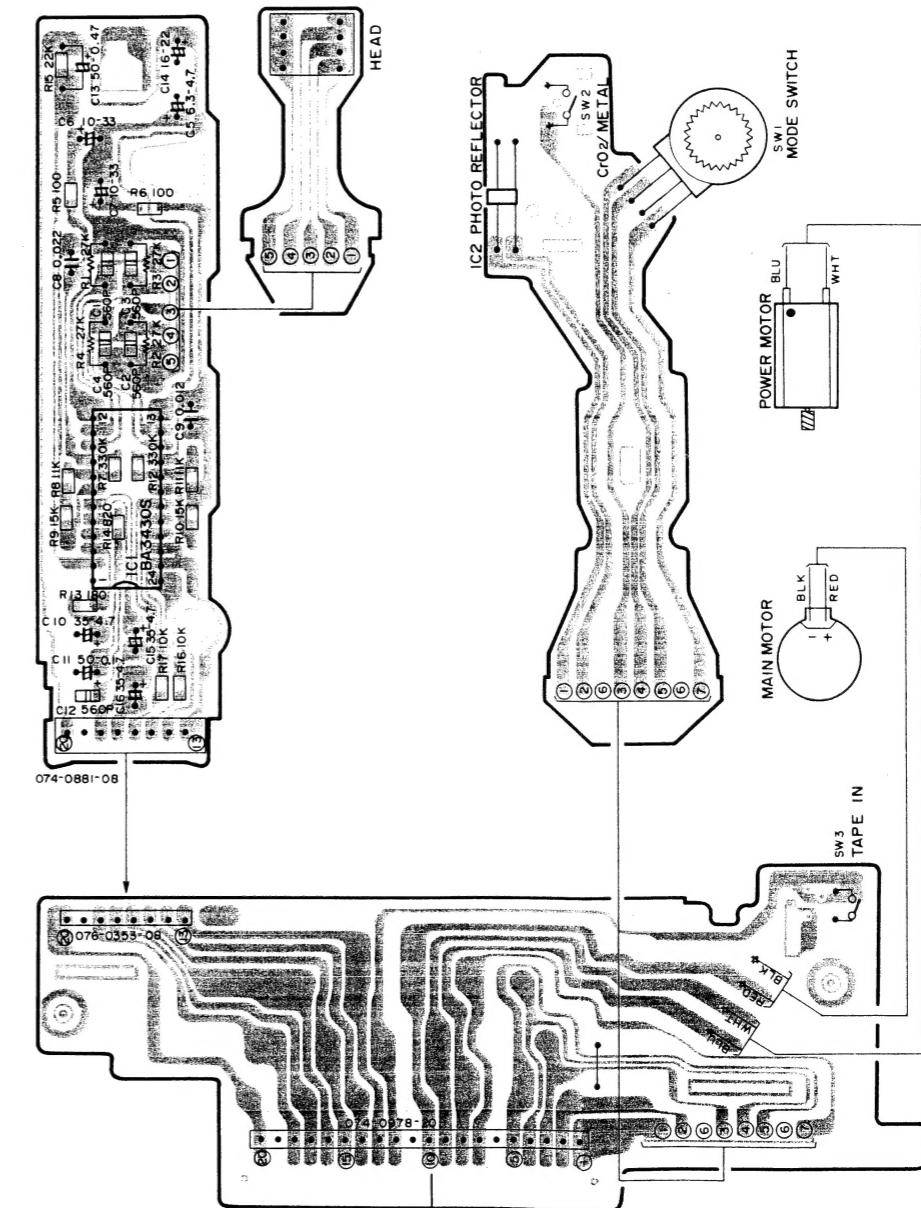
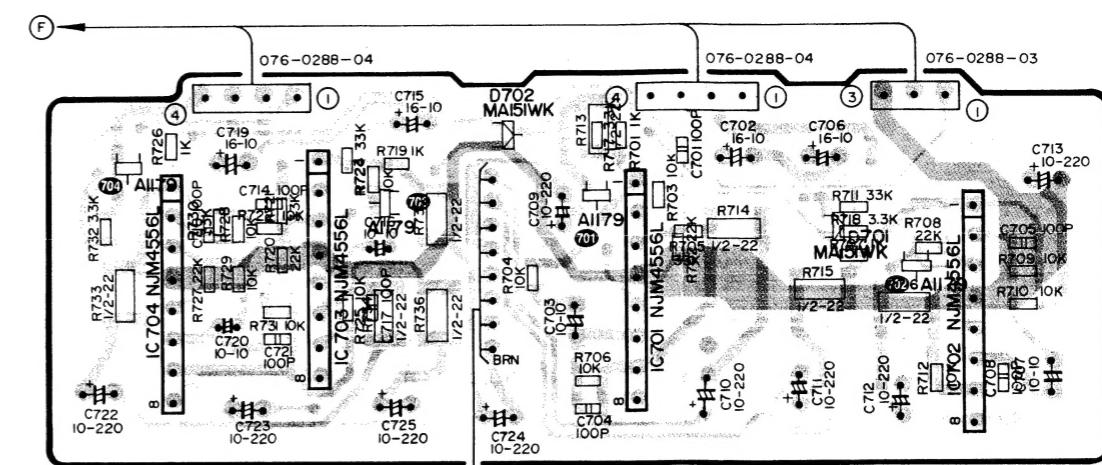
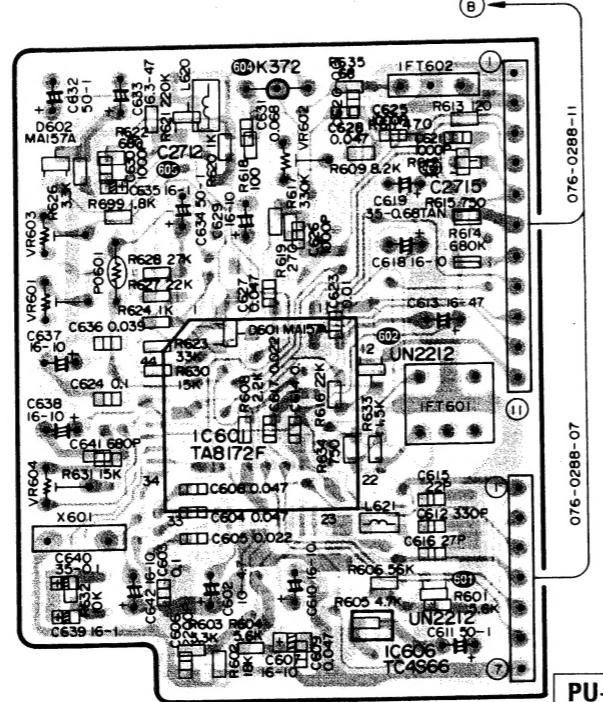
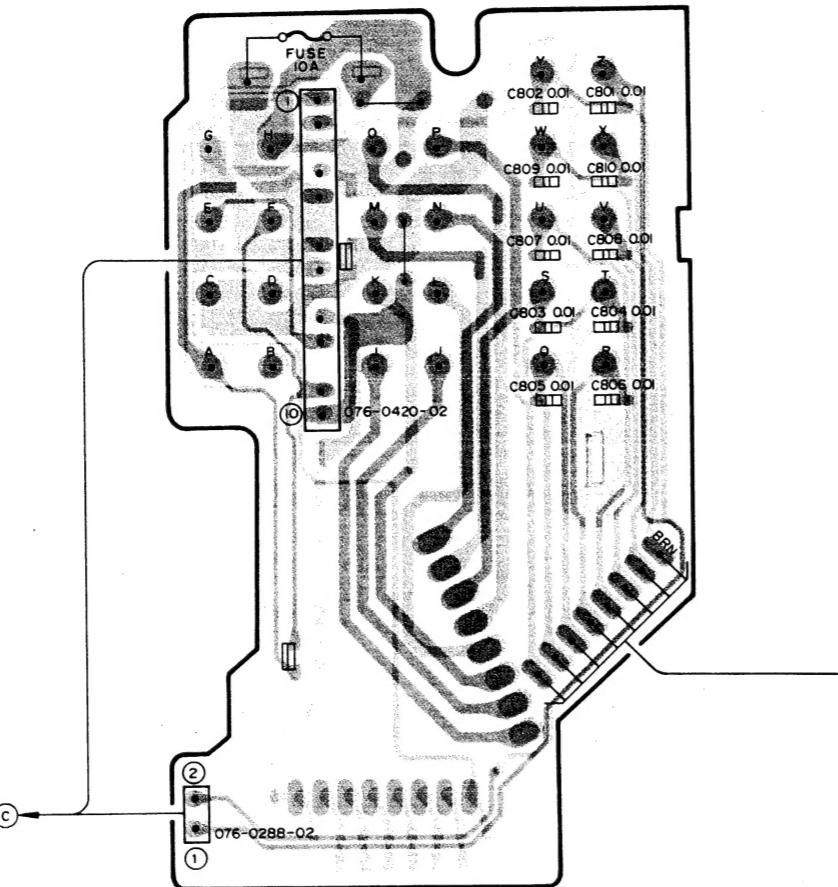
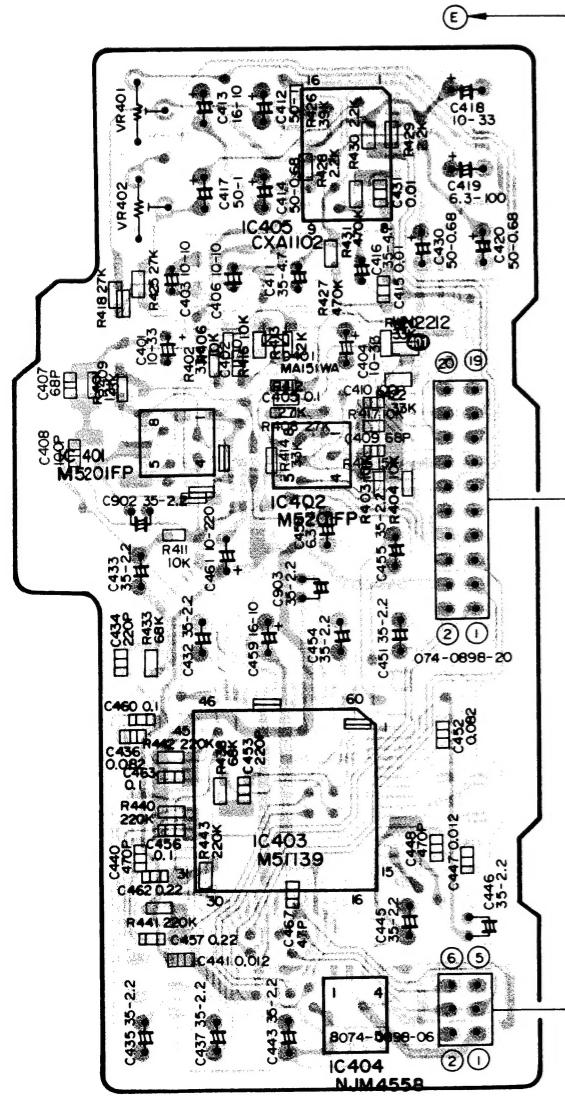
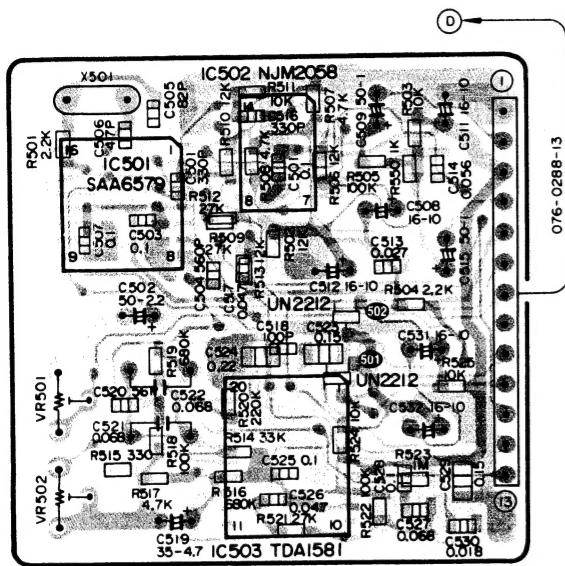
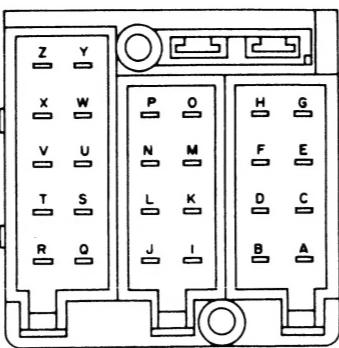


■ PRINTED WIRING BOARD: 1/2



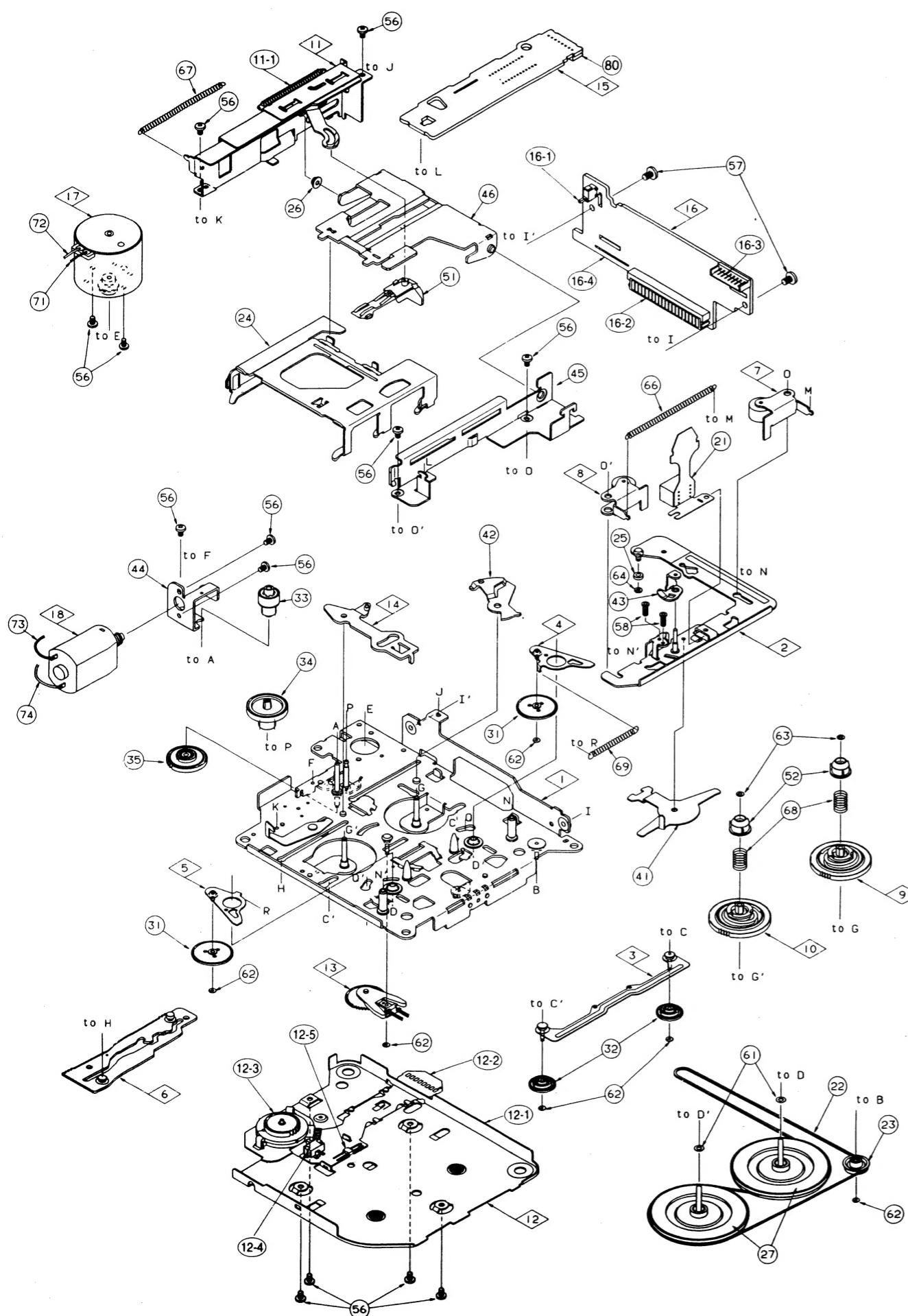
■ PRINTED WIRING BOARD: 2/2

A	REMOTE TURN-ON	N
B	TELEPHONE MUTE	O
C	BACK UP	P
D	REMOTE CONTROL	Q
E	ILLUMINATION	R REAR RIGHT \ominus
F	AUTO ANTENNA	S FRONT RIGHT \ominus
G	GROUND	T FRONT RIGHT \oplus
H	ACC	U FRONT LEFT \ominus
I		V FRONT LEFT \oplus
J		W REAR LEFT \ominus
K		X REAR LEFT \oplus
L		Y SUB WOOFER \ominus
M		Z SUB WOOFER \oplus



■ EXPLODED VIEW • PARTS LIST:

© Tape mechanism section 930-0735-00



NO	PART NO.	DESCRIPTION	Q
1	960-4294-08	DECK PLATE-ASSY	
2	960-4261-04	HEAD PLATE ASSY	
3	960-4262-03	FF/REW-P-ASSY	
4	960-4263-01	IDLER-P-ASSY F	
5	960-4264-01	IDLER-P-ASSY R	
6	960-4266-05	MODE PLATE-ASSY	
7	960-4269-04	ROLLER ASSY F	
8	960-4270-04	ROLLER ASSY R	
9	960-4271-02	REEL ASSY F	
10	960-4272-02	REEL ASSY R	
11	960-4298-90	EJECT SUB-ASSY	
11-1	750-2948-01	SW-PLATE SPRING	
12	960-4296-90	BOTTOM SUB-ASSY	
12-1	960-4295-02	BOTTOM P-ASSY	
12-2	099-9548-00	FLEX PWB	
12-3	013-3951-00	SWITCH	
12-4	013-3953-00	SWITCH	
12-5	051-1114-03	IC NJL5161K-P	
12-6	746-0767-00	WASHER	2
13	960-4282-03	DETECT-SUB-ASSY	
14	960-4301-02	PLAY-L-ASSY GF	
15	099-9540-00	SIDE PWB	
15-1	074-0881-08	OUTLET SOCKET*8P	
16	990-0692-00	REAR-PWB-ASSY	
16-1	013-3906-00	SWITCH	
16-2	074-0978-20	OUTLET SOCKET*20P	
16-3	076-0353-08	PLUG*8P	
16-4	099-9541-00	PWB	
17	SMA-130-100	DC-MOTOR*MAIN	
18	SMA-131-100	DC-MOTOR*POWER	
21	011-0307-28	HEAD	
22	602-0118-00	BELT	
23	604-0046-00	TENSION PULLEY	

NO	PART NO.	DESCRIPTION	QTY
24	606-0101-05	PACK GUIDE	1
25	610-0342-01	HEAD-P-ROLLER	1
26	610-0343-00	GUIDE A ROLLER	1
27	611-0091-02	FLYWHEEL	2
31	613-0285-02	IDLER GEAR	2
32	613-0286-02	FF/REW GEAR	2
33	613-0288-01	HERICAL GEAR	1
34	613-0289-01	GEAR A	1
35	613-0290-00	POWER GEAR	1
41	630-2597-01	CHANGE LINK	1
42	630-2598-04	EJECT LINK	1
43	630-2600-01	ADJUST LINK	1
44	630-2601-02	MOTOR PLATE	1
45	630-2626-01	PWB FRAME	1
46	630-2605-01	GUIDE ARM	1
51	631-1992-01	PACK STOPPER	1
52	631-1993-01	SLIDE BUSH	2
56	716-0484-00	SCREW*M2X2.25 B	13
57	716-0761-01	SCREW	2
58	716-0833-10	AZIMUTH SCREW	2
61	746-0624-00	WASHER	2
62	746-0724-00	WASHER	6
63	746-0761-00	WASHER	2
64	746-0762-00	WASHER	1
66	750-2946-02	PINCH SPRING	1
67	750-2947-01	EJECT-P-SPRING	1
68	750-2949-00	SLIDE SPRING	2
69	750-3017-01	IDLER-P-SPRING	1
71	800-4911-60	VINYL-COAT-WIRE*BLK	1
72	802-4911-60	VINYL-COAT-WIRE*RED	1
73	806-4914-60	VINYL-COAT-WIRE*BLU	1
74	809-4914-60	VINYL-COAT-WIRE*WHT	1